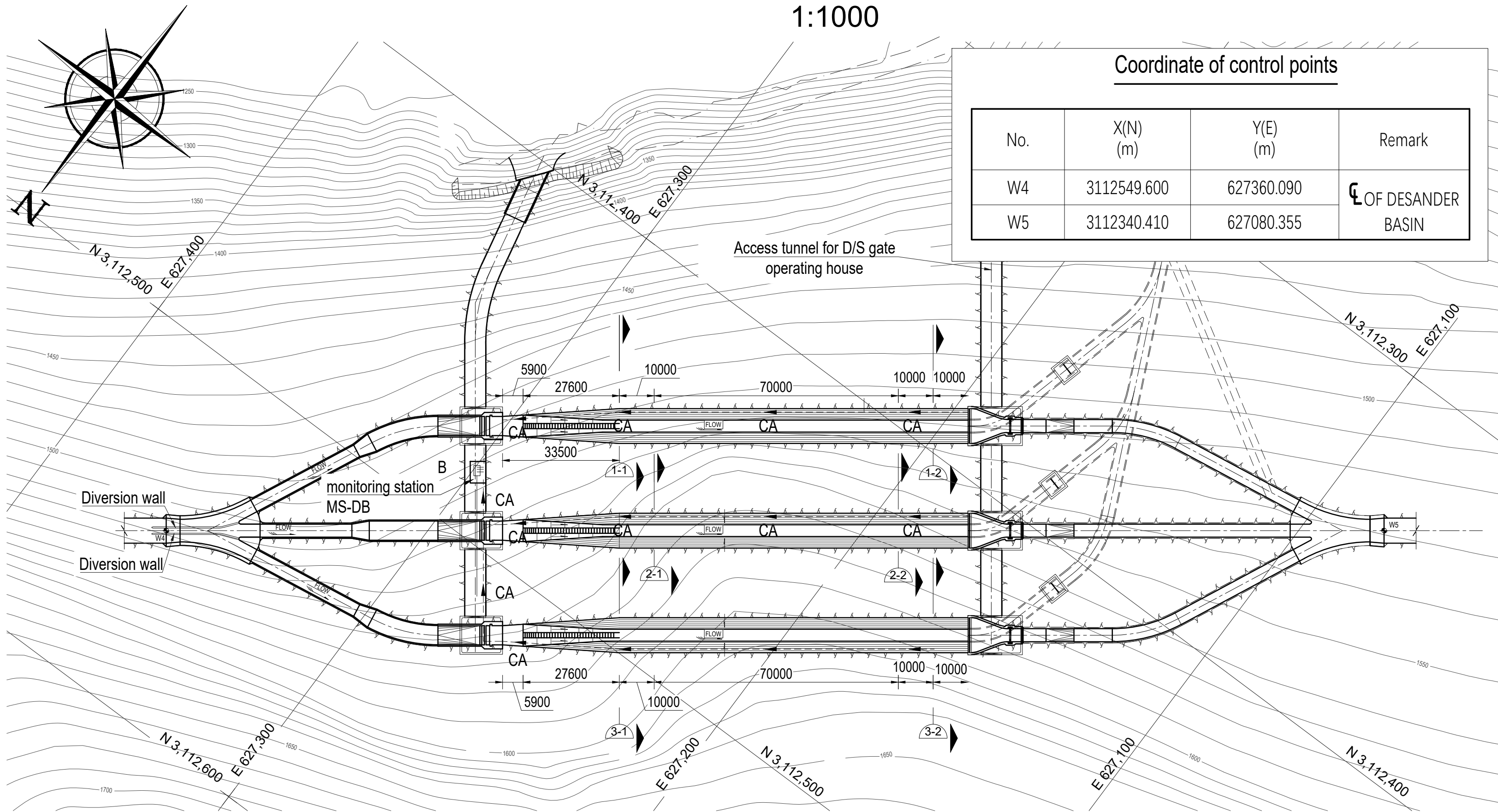


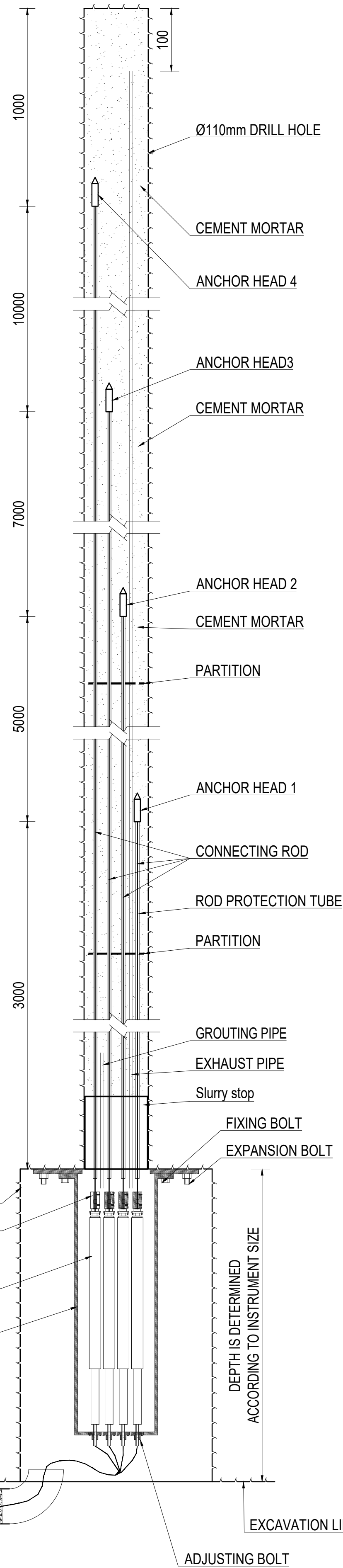
MONITORING PLAN LAYOUT OF DESANDER BASIN

1:1000

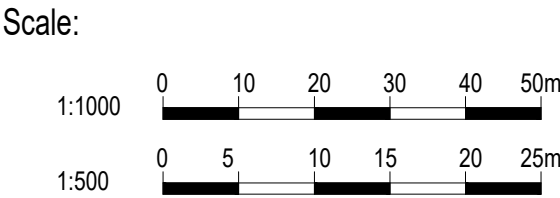


Coordinate of control points			
No.	X(N) (m)	Y(E) (m)	Remark
W4	3112549.600	627360.090	CL OF DESANDER BASIN
W5	3112340.410	627080.355	

SCHEMATIC DIAGRAM OF MULTI-POINT EXTENSOMETER

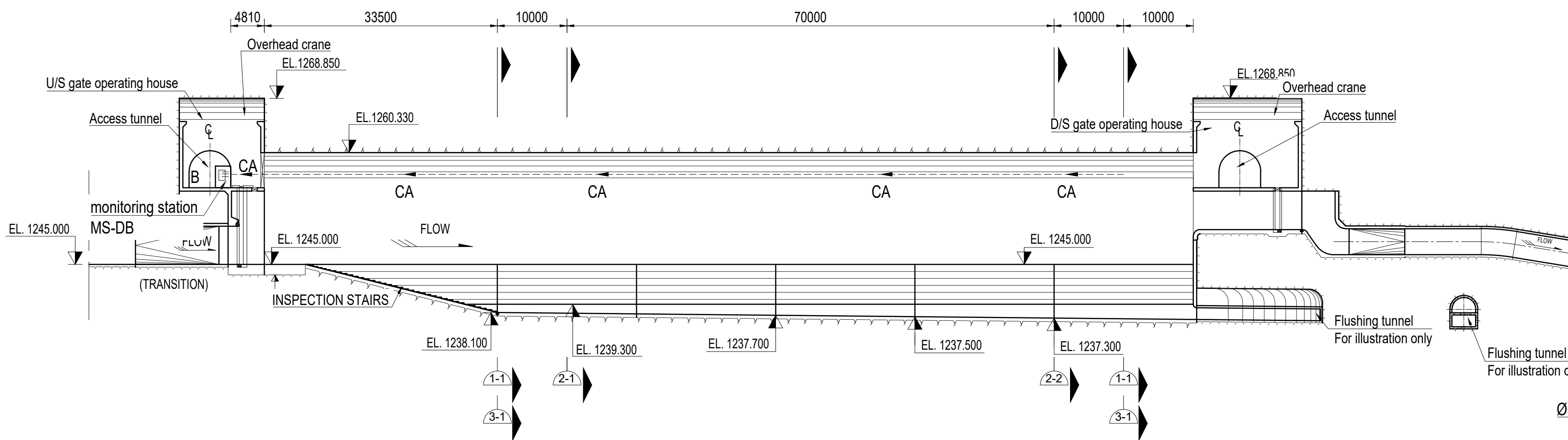


- NOTE
1. This set of drawings is the monitoring layout of desander basin.
 2. All dimensions are in millimeters, and coordinates, chainage and elevation are in meters. The rest shall be subject to the figure.
 3. Layout of desander basin is subject to the drawing UT1-C-030-CVL-DG-52001.
 4. Multi-point extensometer and Rock displacement meter is applied to monitor deep deformation of rock mass, sections are selected as shown on the drawing.
 5. The schematic diagram of rock displacement meter is shown in drawing UT1-C-845-CVL-DG-70012.
 6. Technical requirements of convergence monitoring, please refer to UT1-C-845-CVL-DG-70006.
 7. Besides deep deformation & convergence measurement, other monitoring items can be carried out as per actual conditions and request of Employer or onsite OE during tunnel construction.
 8. All cables are protected by steel pipes. Attention shall be paid to prevent cables from being damaged during construction.
 9. The monitoring station of desander basin is arranged at the Access tunnel for U/S gate operating house. As shown in the drawing.



MORNITORING GENERAL PROFILE OF DESANDER BASIN-1(2/3)

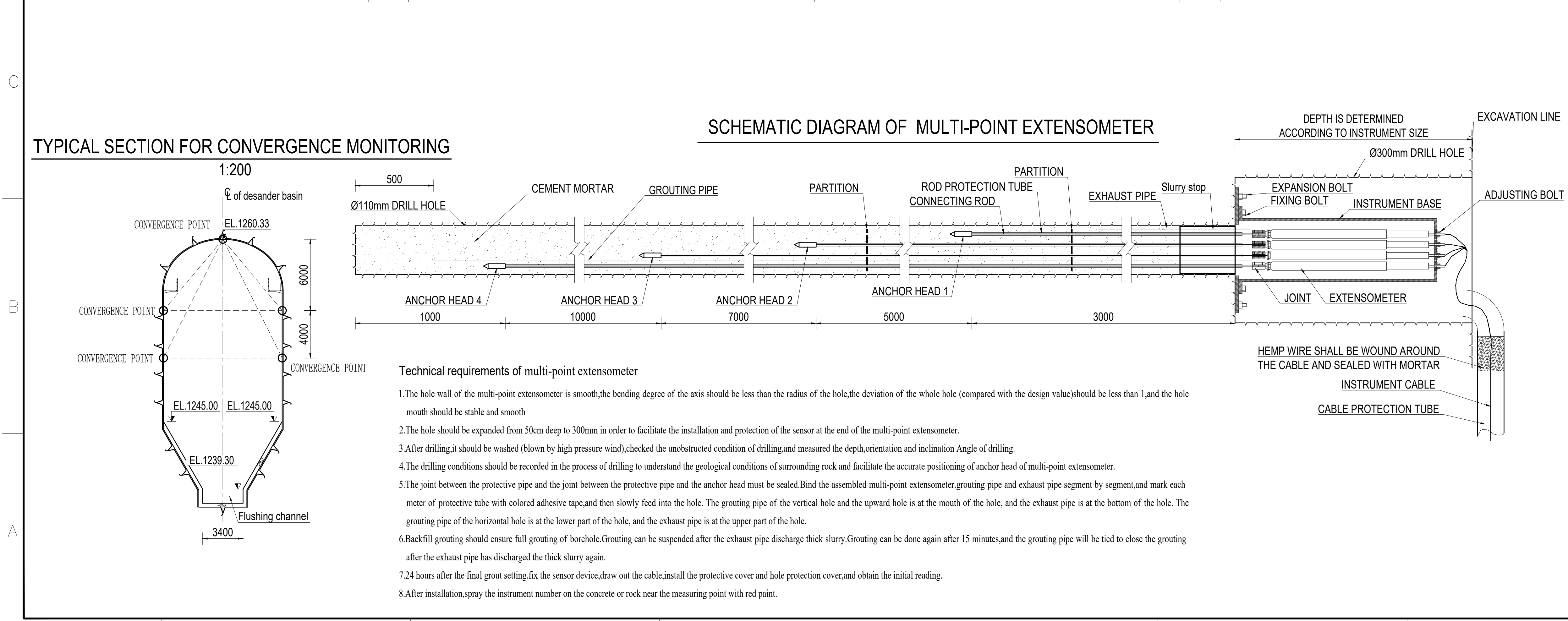
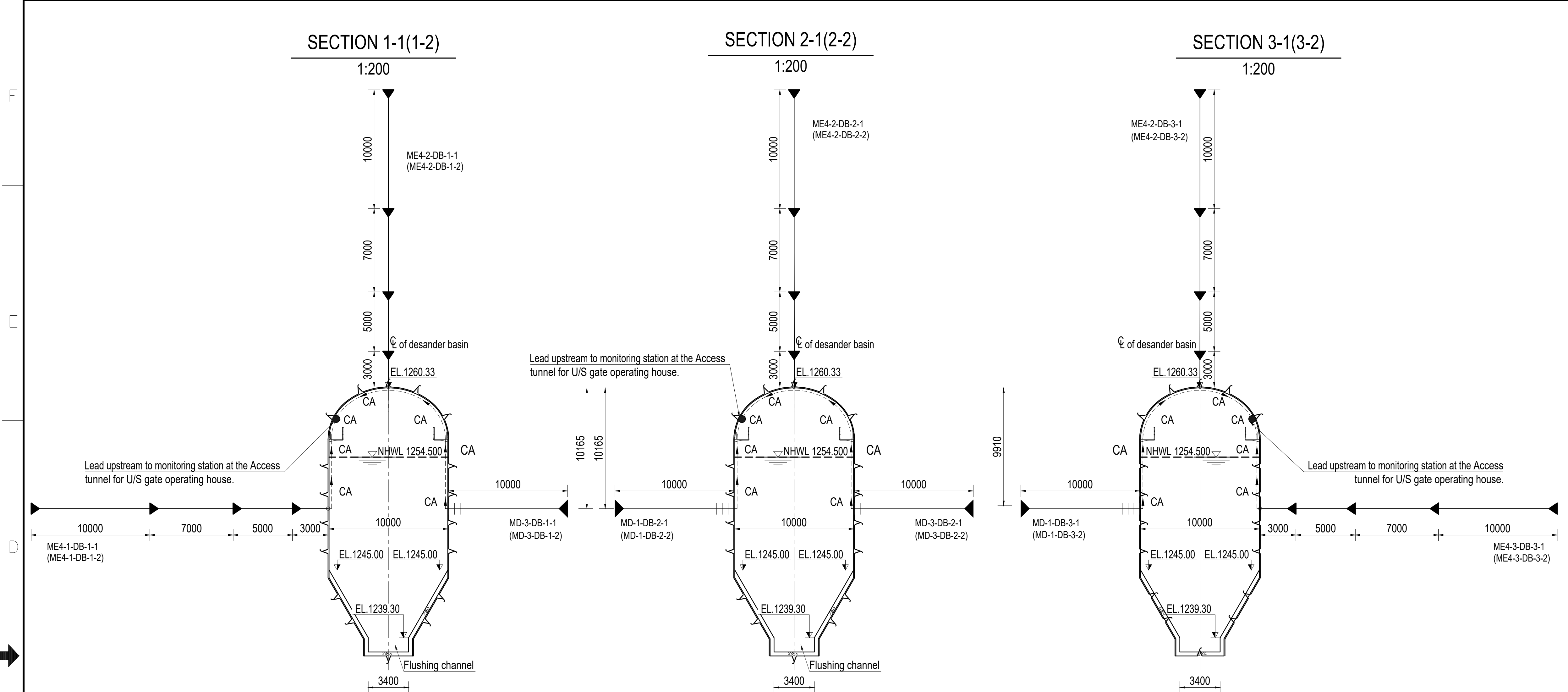
1:500



OBSERVATION INSTRUMENT EQUIPMENT LIST

NO.	NAME	LEGEND	SYMBOL	QUANTITY	UNIT	REMARK
1	Multi-point extensometer		ME4	10	SET	Vibrating wire displacement transducer, Range 100mm, Resolution 0.025% F.S., Including sensor, connecting rod, rod protection tube, anchor head, partition plate, instrument base and other orifice devices.
2	Hole for rock Multi-point extensometer			210	m	Borehole diameter Ø110mm, single hole depth 21m, including backfill grouting.
3	Cable for vibrating wire type		CA	1800	m	10 core, galvanized copper wire.
4	Rock displacement meter		MD	8	m	Unbonded elastic wire resistance type, Measuring range: 40mm; Resolution: 0.1% F.S.; Including sensor, connecting rod, rod protection tube, anchor head, partition plate, instrument base and other orifice devices.
5	Hole for rock displacement meter			84	m	Borehole diameter Ø90mm, single hole depth 10.5m, including backfill grouting.
6	Cable for unbonded elastic wire resistance type		CA	1400	m	
7	Convergent measuring point				set	The number of measuring points shall be calculated according to the monitoring section
8	Hub box		B	3	set	Allow access to 20 instruments, Protect with a homemade protective box.
9	Cable protection tube			960	m	50mm diameter galvanized steel pipe with wall thickness greater than 2.5mm.

REFERENCE DRAWINGS				
UT1-C-030-CVL-DG-52001	LAYOUT DRAWING OF DESANDER BASIN			
UT1-C-845-CVL-DG-70012	LAYOUT DRAWING OF MONITORING FOR TAILRACE TUNNEL			
UT1-C-845-CVL-DG-70006	LAYOUT DRAWING OF MONITORING FOR INVESTIGATION TUNNEL			
SYMBOL AND LEGEND				
<div>FOR APPROVAL</div> <p>THIS DRAWING AND THE INFORMATION CONTAINED HEREIN ARE PRELIMINARY FOR APPROVAL. IT CAN BE CHANGED IN THE EXECUTION STAGE. THIS DRAWING IS THE PROPERTY OF DOOSAN HEAVY INDUSTRIES & CONSTRUCTION CO., LTD. IT IS NOT TO BE COPIED OR USED IN ANY WAY DETRIMENTAL TO THE COMPANY.</p>				
OA	30.MAY.2022	FIRST ISSUE	CUI J.W.	YUAN Q.S.
REV. NO.	DATE	DESCRIPTION	DRAWN	CHKD.
PROJECT TITLE				
Upper Trishuli-1 HEP (216MW)				
OWNER				
OWNER'S ENGINEER				
CONTRACTOR				
Doosan Enerbility Co., Ltd				
DRAWING TITLE				
MONITORING LAYOUT DRAWING OF DESANDER BASIN				
INDEX	DRAWING NUMBER	SHEET NO.	REV. NO.	
A	UT1-C-845-CVL-DG-70011-1	1 OF 2	OA	



NOTE

1. This set of drawings is the monitoring layout of desander basin.

2. All dimensions are in millimeters, and coordinates, chainage and elevation are in meters. The rest shall be subject to the figure.

3. Other see sheet1.

Scale:

1:200

0 2 4 6 8 10m

REFERENCE DRAWINGS

UT1-C-030-CVL-DG-52001

LAYOUT DRAWING OF DESANDER BASIN

UT1-C-845-CVL-DG-70012

LAYOUT DRAWING OF MONITORING FOR TAILRACE TUNNEL

UT1-C-845-CVL-DG-70006

LAYOUT DRAWING OF MONITORING FOR INVESTIGATION TUNNEL

SYMBOL AND LEGEND

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CUI J.W.

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LI W.G.

CHEN S.L.

REV. NO.

DATE

DESCRIPTION

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CHKD.

APPD.

PROJECT TITLE

Upper Trishuli-1 HEP (216MW)

OWNER

NWEDC

NARAYAN WATER AND ENERGY DEVELOPMENT CO. (PVT.) LTD.

OWNER'S ENGINEER

TRACTEBEL

ENGISE

jade

CONSULT

CONTRACTOR

DOOSAN

Doosan Enerbility Co., Ltd

DRAWING TITLE

MONITORING LAYOUT DRAWING OF DESANDER BASIN

INDEX

DRAWING NUMBER

SHEET NO.

REV. NO.

A

UT1-C-845-CVL-DG-70011-2

2 OF 2

OA

A1 (594 x 841 MM) 1